

IN THE CLAIMS:

Please amend the claims as follows.

Claim 1 (Currently Amended): A semiconductor light emitting device comprising:

M pieces of light emitting units (M is an integer of 2 or more) in which a light emitting element array composed by arranging a plurality of semiconductor light emitting elements is mounted in a heat sink having a cooling water passage of which at least a part has conductivity; current supply means for electrically and serially connecting the M pieces of light emitting element arrays contained in the M pieces of light emitting units by connection lines for current supply, and which supplies electric current for making the semiconductor light emitting element emit light; and

cooling water supply means for connecting the cooling water passages of the M pieces of heat sinks contained in the M pieces of light emitting units in parallel by water conveyance pipes including water inlet side conveyance pipes and water outlet side conveyance pipes, and which supplies cooling water which cools the semiconductor light emitting element,

wherein, in each of the M pieces of light emitting units, a first conductive member connected electrically with the conductive portion of the cooling water passage is provided separately in the upstream direction of the water inlet side conveyance pipe by a predetermined distance from the water inlet end of the cooling water passage, and comes into contact with cooling water, and a second conductive member connected electrically with the conductive portion of the cooling water passage is provided separately in the downstream direction of the water outlet side conveyance pipe by a predetermined distance from the water outlet end of the

cooling water passage, and comes into contact with cooling water, and the first conductive member and the second conductive member have an equal potential to the conductive portion of the cooling water passage, and

wherein, in each of the M pieces of light emitting units, a first electrode and a second electrode respectively connected to the connection lines of the current supply means are provided, and the electric current is supplied to the semiconductor light emitting element between the first electrode and the second electrode and through the conductive portion of the heat sink,

the heat sink includes

a first heat sink provided between the light emitting element array and the first electrode and

a second heat sink provided between the light emitting element array and the second electrode, and

the cooling water passage includes

a first passage part provided in the first heat sink and placed between the light emitting element array and the first electrode, and

a second passage part provided in the second heat sink and placed between the light emitting element array and the second electrode.

Claim 2 (Previously Presented): The semiconductor light emitting device according to

Claim 1,

wherein the water conveyance pipe is made of an insulating material, and the conductive member is formed into a cylinder, and is interposed in the middle of the water conveyance pipe, and

wherein the sectional area of the conductive portion of the cooling water passage at the water inlet end or the water outlet end of the heat sink is smaller than that of the conductive member formed into the cylinder.

Claim 3 (Previously Presented): The semiconductor light emitting device according to Claim 1, wherein the heat sink is made of a conductive material, and the conductive member is fitted to the water inlet end or the water outlet end of the heat sink, and

wherein the conductive member is formed substantially like a funnel so as to extend its diameter toward the upstream direction or the downstream direction of the water conveyance pipe.

Claim 4 (Previously Presented): The semiconductor light emitting device according to Claim 1, wherein the semiconductor light emitting element is a semiconductor laser element.

Claim 5 (Previously Presented): A plant cultivation apparatus comprising the semiconductor light emitting device according to Claim 1, wherein the semiconductor light emitting device irradiates plants with light to cultivate the plants.